

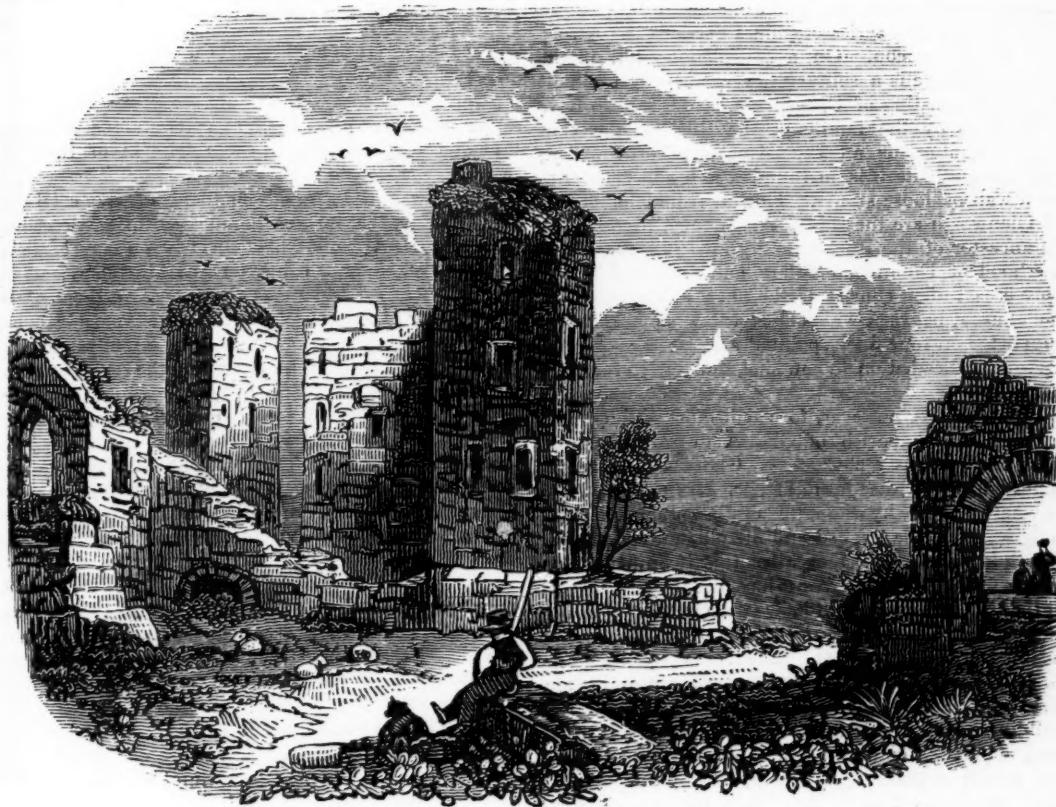
# THE Saturday Magazine.

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GLANWORTH CASTLE, CORK.

GLANWORTH is the name of a village in the southern part of Ireland, and also of the parish in which the village is situated. Glanworth parish is in the baronies of Fermoy, Clokibbons, and Condors, in the county of Cork, and contains rather more than 4500 inhabitants.

The village of Glanworth is pleasantly situated on the south-western bank of the river Funcheon; and contains 215 houses, and rather more than 1000 inhabitants. It is on the road from Fermoy to Limerick, and was formerly called Glanore, i.e., "the golden glen," from its great fertility. An ancient stone bridge of twelve arches crosses the river opposite to the town, and near the foot of the bridge are two large flour-mills, which grind 10,000 barrels of fine flour annually. There are six fairs held annually in the town, and although it is not now either a corporate or a market town, it is said to have once been both. This village was the scene of many conflicts during the parliamentary wars, being among the last places in the south of Ireland which held out for the king: it was not until Ireton besieged and took the castle, that the town surrendered.

The parish of Glanworth comprises rather more than eleven thousand acres of land, valued under the tithe-act at 9878*l.* 11*s.* 7*d.* per annum: it is in general good, and mostly under tillage; the system of agri-

culture being in a state of progressive improvement. The river Funcheon, which flows through the parish, is remarkable for the abundance and excellence of its trout, as also for salmon, though in smaller quantity. Glanworth Church is a plain edifice, with a low tower and spire. The glebe-house, inhabited by the incumbent of the parish, is a large and handsome mansion adjoining the village, and commanding a picturesque view of the bridge and ruined castle: it was built by the late incumbent, at an expense of two thousand pounds, which was partly defrayed by the late Board of First Fruits. The living is a rectory in the diocese of Cloyne, and under the patronage of the bishop. There is a school in the parish, wholly supported by the rector, where thirty children are taught; and seven private schools, in which between three and four hundred children are educated.

But Glanworth parish claims our present notice rather on account of the relics of antiquity which it contains, than for the buildings or institutions of a more modern date. Between the towns of Glanworth and Fermoy is an ancient Druidical altar, called *habacally*, or the witches' bed. It appears to have been originally about thirty feet long, and of proportionate width, and was enclosed by a circle of flag-stones, of fourteen feet radius: one of the covering stones is seventeen feet long, eight feet wide, and three feet

thick, supported on each side by double rows of large flag-stones fixed in the ground. The history of this altar, if it could be traced, would probably extend back to a very remote period; for we may remark that Ireland possesses many remains of temples, altars, &c., whose erection might probably be dated before the commencement of the Christian era.

About half a mile north-west of Glanworth village is a stone pillar, about twelve feet high, supposed to have been an ancient boundary; and at a short distance eastward of it is a similar pillar of smaller dimensions, forming part of a series of pillars between the Awbeg and the Funcheon. On a conspicuous hill in the Kilworth range is a solitary tower, the only remnant at present existing of Caherdring castle, said to have been built by the family of the Roches: the view from it commands an extensive range of country; and the tower itself is surrounded at a short distance by a wall of loose stones. Not far from the village of Glanworth are the ruins of an abbey, founded by an ancestor of the Roche family in 1227, for a brotherhood of Dominican Friars, and dedicated to the holy cross: they consist of the nave and chancel of the church, between which rises a low square tower, supported on four finely pointed arches: the windows are square-headed on the outside, but finely arched in the interior.

The building, however, to which most of those now existing in the parish of Glanworth probably owed their existence, is the Castle of Glanworth, a representation of which heads this article. It is now unknown at what period or by whom this castle was erected; but, judging from the rugged and dilapidated appearance which it presents, we may infer that it is a place of great antiquity. It appears to have been an ancient seat of the Roche family, and to have been in the possession of Lord Fermoy in 1601, by whose descendant it was fortified in the year 1641. The ruins consist of an ancient square tower of considerable strength, supposed to be the keep, and the remains of another building of more recent date and superior construction, apparently containing the state apartments: they are within a quadrangular area, enclosed by strong walls nearly six feet in thickness, and defended at each angle by a round tower. The whole mass of ruins is proudly stationed on some bold rocks, the steep face of which is washed by the river Funcheon.

It has been remarked by Mr. Townshend, in his Survey of the county of Cork, that by far the greater number of the numerous castles which are contained in that part of the county where Glanworth is situated, attest the opulence of their founders, and prove that the country, however unsettled in its general state, must have enjoyed many intervals of repose, as well as a considerable degree of wealthy population. With every allowance for the facility afforded by cheapness of labour, and power of influence, such works bear internal evidence of the progress of arts and the possession of affluence.

Mr. Crofton Croker, who devoted a good deal of attention to the scenery of the south of Ireland, has observed, that from some elevated stations, the ruins of as many as ten or twelve ancient castles may be often comprehended in the same view. Throughout the majority of these castles, the same uniformity of plan appears to exist. The extent of each castle seldom exceeded a single square tower of three or four stories, the confined and gloomy chambers of which were lighted through a massive wall by narrow loop-holes. An intrenched or walled plot of ground, called the *bawn*, surrounded or adjoined the tower, into which the cattle were driven at night, to secure them from wolves, or from the neighbouring chief-

tains, almost as rapacious: the bawn also afforded protection, in times of danger, to the followers of the owners of the castle; and, in the internal feuds which continually harassed and distrusted Ireland, when one chief invaded or appeared with a hostile disposition on the possessions of another, the clan immediately fled with their cattle to the bawn of their lord's castle for protection; illustrating that state of society, when

By force, not law, men held uncertain wealth,  
And neighbouring chiefs, for plunder or for pride,  
Their vassals mustering, on each other's powers  
Waged petty war! hence all those tall remains  
Of former strength, that 'mid our verdant fields  
Stand venerable.

In the square tower, the upper story was the best or state apartment; for each story contained generally but one room, having, in the thickness of the wall, recesses for sleeping.

Such was the general character of the castles of the Irish gentry, for nearly four centuries preceding the reign of Queen Elizabeth, when many of them were attacked and ruined by the turbulent spirits which disturbed Ireland at that time. A sense of the inefficiency of these castles against the force of cannon, coupled with their inconvenience as domestic habitations, led to their abandonment, and the replacement of a new species of national architecture, modelled upon the ancient English manor-house, but still retaining a good deal of the solidity pertaining to a castellated structure. These castellated manor-houses continued to be the residence of the gentry till about the reign of Queen Anne, when they were superseded by the heavy red brick mansions which are still the habitations of many of the Irish gentry.

Many of the ancient castles are situated so closely, that two of them are frequently almost within earshot of each other; and whenever this is the case, the guide or attendant who shows the castle has generally some story or legend to relate respecting the intercourse—either amicable or the reverse—of the inmates of the two adjacent castles. These legends have often a tinge of that drollery which seems in all ages to have distinguished the humbler classes of the Irish people. Mr. Crofton Croker has preserved one of these legends:—In former times two Brehons, or Irish judges, lived in two neighbouring castles. They happened to have some dispute about their respective properties; and their wives, though they were sisters, used to stand upon the battlements of their castles, and scold at one another for several hours together. At length one of them getting weary of these hostilities, contrived a trick to ease herself of the personal exertion which these cabals called forth: she would appear on the battlements and begin the fray; she would then place an image which she had dressed up in her own clothes, in such a posture, that her sister could not discern it from herself at that distance. The deceived sister, not sensible of the cheat, used to scold on, and at last fretted herself to death because she could not be answered in her own language. We might be surprised how such a laughable absurdity as this could pass current from mouth to mouth, did we not reflect how prone the uneducated are to indulge in whatever is strange or marvellous. Where the tone of mind happens to be, as among the natives of Ireland, highly imaginative, these legends and stories are all the more likely to be decked out with additional trappings.

SPIKE is a little word, but it represents as strange a jumble of feelings and compound of discords, as any polysyllable in the language.—DICKENS.

## THE ST. GEORGE.

"The wooden walls of Old England."

We have already given a detailed description of a ship of war, and of its internal economy and discipline\*, and also an account of the launch of one of those magnificent structures†. The addition of a first-rate line-of-battle-ship to the naval force of our country, in time of peace, is, however, a rare occurrence; and we, therefore, gladly avail ourselves of the permission of Mr. Byers, of Devonport, to extract from a little pamphlet, published by him, the following particulars relative to the new ship, the St. GEORGE, lately launched at that port.

A ship of war is at all times an imposing spectacle, and the completion of a new one gives rise to a variety of animating associations. The political economist is led to speculate on the costliness of a man-of-war, and the brief period of its duration; the scientific observer contemplates the principles of its design; the practical mechanic the mode of its construction; the warrior its adaptation to the destructive objects for which it is destined; while the philanthropist meditates on the painful realities which war brings with it into our homes and families.

The St. GEORGE is what is termed a first-rate man-of-war of the first class†. She mounts 120 guns, and will have a complement of 820 men. Her dimensions, which we have from good authority, are as follow:—

	ft. in.
Length on the gun-deck .....	205 11½
" for tonnage .....	170 5
Breadth extreme .....	55 3½
" for tonnage .....	54 2½
" moulded .....	53 11½
Depth in hold .....	23 2

Burthen about 2700 Tons.

To build a ship of the magnitude of the St. GEORGE requires nearly 6000 loads of timber, and allowing that each tree will produce on an average two loads, it would take about 3000 trees to furnish timber enough for such a ship. Now it has been estimated, that 30 trees of full growth will cover an acre of ground; consequently, it will take 100 acres to produce sufficient timber for a ship of this class; and as timber of large scantling is from 80 to 100 years coming to its full growth, the quantity of land required for navy-timber, in this country, must be immense. This is a serious question, it being well known that there was an alarming scarcity of oak in this country, in time of war. Foreign timber is therefore introduced very extensively in ship-building.

The cost of building a ship similar to the St. GEORGE has been computed to be as follows.

For Labour alone.....	£15,643
Materials .....	77,878
Total cost.....	£93,521

\* See Saturday Magazine, Vol. III. p. 33.

† Ibid. Vol. IV. p. 49.

The Navy is divided into six rates. All three-deckers are called first-rates, and mount from 104 to 120 guns. The larger sort of two-deckers, viz. those which mount from 80 to 100 guns, are called second-rates, and the remaining two-deckers, varying in their numerical armament from 70 to 80 guns, are denominated third-rates.

These three rates include all ships of the line. The remaining three consist entirely of frigates; thus frigate-built ships, which mount from 50 to 60 guns, and have a complement of from 400 to 600 men, are called fourth-rates; those which mount from 36 to 48 guns, with a complement of from 250 to 400 men, are fifth-rates; and those which mount from 26 to 28 guns, with a complement less than 250 men, are sixth-rates.

The rates are again subdivided into "classes," as follows; viz., the first-rates into three classes; second-rates into three; third-rates into two, fourth-rates into two; fifth-rates into four; and sixth-rates into three, making altogether seventeen "classes," out of the six "rates" of the Royal Navy.

This will give 34*l.* 7*s.* 10*d.* per ton, for building. The value of labour appears to be very nearly one-sixth of the whole, and the value of workmanship to materials about in the ratio of one to five. At the above rate of earnings, which allow about 5*l.* 15*s.* per ton for workmanship, it would take about 200 men twelve months to build the ship.

It will scarcely be credited, perhaps, that the average durability of British men-of-war has been estimated to be only thirteen years! This we believe to be correct; so that the annual expense of keeping our fleets in efficient condition may be said to amount to *one-thirteenth* part of the original cost of the whole. This is an important and striking fact.

The St. GEORGE was first ordered to be built in September, 1820, but it was not until the spring of 1827 that her keel was laid. In the course of the following year, she was in frame, and was then left standing to season until 1832, when she was proceeded with by degrees, as the other works of the yard would admit.

Having been ordered to be built, at a time when the late Sir Robert Seppings (then surveyor of the navy) was introducing extensive improvements in the practical department of ship-building, she was originally intended to be constructed in strict conformity with his plans; but the alterations which have since taken place—more in detail perhaps than in principle—have led to corresponding changes in the works of the St. GEORGE. Hence it will be found that Sir R. Seppings' plans are adopted in many cases in a modified form. The original system of "oblique riders" and "trusses," for example, has not been introduced in the same manner, nor so extensively *in the hold*, as originally intended; nevertheless the diagonal principle has been maintained to a great extent in that part of the interior of the vessel. Diagonal decks have been altogether abolished, but the *shelf-pieces* have been retained, and the *truss-pieces* between the ports on the gun and middle decks strictly preserved.

The stern has undergone the greatest change—a change for which the country is indebted to Mr. Roberts (the late master shipwright of this dock-yard), who suggested a plan for constructing sterns, at once elegant and effective. Mr. Roberts' plan "houses" the rudder-head, which the original stern did not: it has no external appendages liable to be blown away by firing the stern guns, and it preserves the curvilinear form, which certainly is best adapted to the pointing of guns, and is stronger, on account of keeping up a connexion between the planking and the sides and stern of the ship.

The "quarter galleries" are not exactly as they were originally designed by Mr. Roberts, but have been lengthened a little in a fore and aft direction, and thereby improved, at the suggestion of Mr. Hawkes, the present master shipwright, under whose able directions the ship has been finished.

The figure-head is a full-length representation of St. George and the Dragon, but he is not *à cheval*—he is standing with his left foot on, and is slaying the dragon. The dimensions of the figure, measured in a vertical direction, are 14 feet, and upwards of 20 feet if measured obliquely. It consumed about 200 cubic feet, (or four loads) of fir timber, (Quebec yellow pine) and cost, in addition to the labour of "roughing it out," 100*l.* for the carving alone. It was designed and executed by Mr. Frederic Dickerson of Plymouth.

The St. GEORGE will draw about 15 feet 1 inch of water forward, and about 18 feet 4 inches abaft. The light displacement, or weight of the ship's hull,

estimated from this draft of water, will be 2400 tons; the area of the corresponding water-section, (or plane of flotation) will be 8440 feet; and the weight required to sink the vessel *one inch*, under those conditions, will be 20 tons. But before the ship goes to sea, she will have to receive on board her armament, powder and shot, masts, yards, sails, rigging, anchors, cables, boats, water, stores, provisions, ballast, men and their effects. These, it is calculated, will sink her until she draws 24 feet 8 inches forward, and 26 feet 1 inch abaft. In this case, the weight of the ship and its contents will be 4784 tons, making an addition of 2384 tons beyond the weight of the hull alone. And it is a curious circumstance, that the weight of the ship should be nearly equal to the weight of its contents and equipment! The area of the load-water section, or plane of flotation, when equipped for sea, will be 10,012 superficial feet; and the weight then required to sink the vessel *one inch*, will be nearly 24 tons.

As soon as convenient after the vessel is launched, she will be taken into dock for the purpose of removing the fixed fitments of the launch, and to be coppered. A first-rate will take 4000 sheets of copper, (4 feet long, and 14 inches broad,) the weight of which is about 24 tons, and the value, including workmanship, something more than 2000*l.*

In building a ship, the first part of the process is to lay the keel, which is placed upon blocks at a distance of about 5 feet apart. During the progress of the building, as the frames are gradually raised, shores are used to sustain their weight.

In preparing a launch the object is to devise some means of sustaining the whole weight of the ship, until she descends sufficiently far into the water to receive entire support from the water itself. Some substitute for the shores and blocks is therefore necessary, before they can be removed; and, whatever new means of support may be contrived, it is obviously necessary that it must be upon a locomotive principle, in order that the ship and the means of supporting her may move downwards together. Now the contrivance by which this is effected is very simple, and will, it is hoped, be rendered intelligible by the following explanation.

In the first place, a ship is always launched upon an inclined plane, at a descent varying from seven-eighths of an inch to an inch and a quarter to a foot; or, more properly speaking, upon two inclined planes, one on each side of the ship, extending from the fore part of the vessel to as great a distance downwards as the lowest ebb of the tide will admit, in order that the ship may, as much as possible, become water-borne while in the act of descending. The surface of these planes (technically called the *sliding-planks*) is generally about two feet below the body of the ship amid-ships; and their distance apart should be so regulated that the *cradle*, (which will hereafter be described,) should have a base to rest upon, equal to *one-third* the breadth of the ship. The mode of forming the inclined planes, is to lay stacks of blocks on each side the ship, extending longitudinally, as before mentioned, to the lowest ebb of the tide. The upper surfaces of these blocks being then trimmed to the required declivity, the *sliding-planks* are fixed to them, for the cradle to descend upon.

This part of the preparation for the launch being completed, the cradle must now be constructed.

The first step is to provide what are termed *builge-ways*—one for each side of the ship. Now a builge-way is a mass of fir timber, about two feet square, and extending three-fourths the length of the ship.

These builge-ways will eventually become the fundamental part of the cradle; they will be the locomotive base to which the entire weight of the ship will be transferred, (when the keel-blocks and fixed shores are taken away,) and will descend with the ship. The builge-ways being formed, they are laid upon the sliding planks, and so adjusted as to lie parallel to the middle line of the ship, at a distance apart of one-third the extreme breadth. Strong ribbands are then fixed to the sliding-planks, outside the builge-ways, and nearly in contact with them, thus forming a kind of groove, in which the cradle will ultimately glide down into the water.

Now it necessarily follows, owing to the form of a ship, that although the distance from the body of the vessel to the builge-ways *amidships*, may not exceed two feet, that it will far exceed that space towards the extremities. The following plan is therefore adopted: where the distance is but small, solid fir timber is fitted in between the builge-ways and bottom; and this is called the *stopping-up*. But towards the extremities, *shores* of a square form, called *poppets*, are introduced, in a vertical position, between the builge-ways and the bottom, very near each other, thus forming, in conjunction with the stopping-up, a system of efficient support on each side of the vessel, perfectly capable of receiving the whole weight of the ship when the period arrives for transferring it from the keel-blocks and fixed shores.

It should here be observed that the lower ends of the poppets do not rest actually upon the builge-ways, but upon a *plank* placed on them, in order that wedges, (called *slices*,) may hereafter be driven in between it and the builge-ways, to set the component parts of the cradle compactly together, and to relieve the keel-blocks from a portion of the weight of the ship, previous to the operation of splitting them out. The same system of driving in slices also takes place between the stopping up and the builge-ways, and the whole is done simultaneously.

The cradle being completely fitted, one of the last operations is to take it apart, in order to introduce between the builge-ways and sliding-planks a quantity of tallow, oil, and soft-soap, the use of which is obvious. The cradle is then replaced; and the question now becomes, what prevents the descent of the ship and cradle, down the sliding-planks, at the instant the blocks are removed from under the keel? This is effected by a very simple means, which not only prevents their descent, but enables us, at a moment's notice, to launch the ship with as much facility as pulling the trigger of a gun.

The descent of the cradle and ship is prevented by a shore, called the *dog-shore*, which is so placed as to receive at one end the pressure of the cradle, while the other end abuts against the ribbands which form the groove in which the cradle slides. But as soon as the dog-shore on each side is knocked down, which is effected by allowing weights to fall simultaneously upon them, or by striking them away with a heavy maul, the ship, by its own weight, slides down the inclined plane into the water.

The weights which fall upon the dog-shores are usually connected together, and supported by a string passing round the fore-part of the ship, and which, by being cut, allows them to fall at the same instant. The operation of cutting the string, and the ceremony of *christening* the ship, are commonly performed by a lady, whose position in society entitles her to this distinction; and which, in the instance of the St. George, was performed by Mrs. Warren, the lady of the respected admiral of the dockyard.

The armament of the St. George consists of 120 guns, agreeably to the annexed table.

	No.	Pounds.	Cwts.
Lower Deck	28	32 Guns*	63
"	4	68 Do.	50
Middle	2	32 Do.	55
"	32	68 Do.	50
Upper	34	42 Do.	49
Forecastle	4	32 Do.	...
Quarter-deck	16	32 Carronades	...
Total	120	Broadside, 2100 lbs.	

## MASTS AND YARDS.

	MASTS.		YARDS.	
	Long. ft.	Diam. in.	Long. ft.	Diam. in.
MAIN	124	8	40	105 0
" Top	70	6	22	74 0
" Gallant	31	6	12 $\frac{1}{2}$	46 0
" " pole	9	6	...	...
" Royal	...	...	32 6	6 $\frac{1}{2}$
FORE	116	10	37	91 0
" Top	62	6	22	65 0
" Gallant	28	0	11 $\frac{1}{2}$	41 6
" Royal	...	...	29 6	6
MIZEN	67	6	26	...
" Top	50	6	16	51 6
" Gallant	23	6	9	33 6
" Royal	...	...	24 6	5
" Gaff	49	0	16	...
Spanker Boom	70	0	16	...
Bowsprit	51	0	40	...
Jib-Boom	51	0	16	...

The distance from the outer-end of the flying jib-boom, to the end of the driver-boom, will measure about 331 feet; the distance from the keel of the ship to the truck at the head of the royal-mast, 226 feet; the spread of the main-yard, 105 feet; and the spread, with the studding-sails set, about 175 feet.

The quantity of sail capable of being spread upon spars of the dimensions in the table, is very great. It has been calculated to be 25,620 superficial feet! The surface of sail set upon the main-mast alone has been estimated to be 10,273 superficial feet: the sails on the fore-mast, including the jib, 10,246 superficial feet; and those on the mizen-mast, 5101 superficial feet. By this it appears that the sails set upon the fore-mast, including the jib, expose, as nearly as possible, as great an area to the action of the wind as the sails on the main-mast; and that those belonging to the mizen-mast are equal in area, or very nearly so, to one-fifth of the whole surface of sail.

The St. George will carry seven anchors; the four largest, called "bower-anchors," weigh 95 cwt. each; the links of the chain-cables are two inches and an eighth in diameter, the proof-strain upon which exceeds 80 tons; and a hempen cable equivalent to a chain of that size, is twenty-five inches in circumference.

The ballast which a ship of this description will take to sea amounts to about 300 tons.

\* The diameter of a 32-pounder shot is 6 4-10ths in. and that of a 68-pounder is 8 in. The charge of powder for the 63 and 53 cwt. guns, which are 9 $\frac{1}{2}$  feet long, is 10 lb. 10 $\frac{1}{2}$  oz., or one-third the weight of the shot; but the 48 cwt. gun, which is only 8 feet long, requires only a charge of 8 lbs., one-fourth the weight of the shot; while the 68-pounder, which is 8 feet long, has a charge of 9 lb. 7 oz., equal to about one-seventh the weight of the shot. The point-blank range of a 32-pounder long-gun is 420 yards; that of the 68-pounder is 360 yards.

NATURE gives to every time and season some beauties of its own; and from morning to night, as from the cradle to the grave, is but a succession of changes so gentle and easy that we can scarcely mark their progress.—DICKENS.

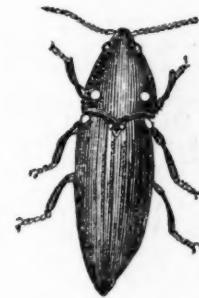
BEAUTIFUL as are the wild solitudes where Nature dwells in her retirement,—bright as the spray of the bounding cataract,—sweetly as the rippling stream murmurs on the ear, there is something far more lovely and beautiful in the sight of a congregation of faithful Christian children, hymning the praises of their Saviour.—GRESLEY.

## LUMINOUS INSECTS.

## II.



(Pausus spherocephalus.)

FIRE-FLY OF SOUTH AMERICA.  
(Elater noctilucus.)

We proceed to describe a few of the more remarkable luminous insects; and first that very rare and curious species, the *Pausus spherocephalus*, in which the globes of the antennæ constitute the organs of light. This insect was discovered quite accidentally, at Sierra Leone, by Dr. Afzelius in 1796, and belongs to a genus of insects, the last ever described and named by the celebrated Linnæus. The etymology of the word "Pausus," and the reason for applying it to these insects was never explained by Linnæus himself, but it is supposed to be derived from the Greek word for a *pause*, a *cessation*, a *rest*, and to have had some allusion to the state in which the great naturalist then found himself;—old, infirm, sinking under the weight of age and labour, and feeling the necessity for a cessation from his useful exertions. Whether this etymology be right or wrong, it is the only explanation attempted by the friends and disciples of Linnæus for the naming of this genus.

Linnæus knew but one species, and took from it the generic character, naming it *micro-cephalus*, on account of its head being small in proportion to its body. It is of a darker colour, and possesses less remarkable antennæ than the one described by Dr. Afzelius.

The latter gentleman had been residing in Africa for the space of three years, when he happened to meet with the *Pausus spherocephalus*. It was in the month of January, when occupying apartments in Free-town, Sierra Leone, that he first saw the insect. He had just lighted his candle one evening, and began to write, when something dropped from the ceiling, which, from its singular appearance, attracted his peculiar attention. It remained for a little while immovable, as if stunned or frightened, but began soon to crawl slowly and steadily. On a close observation of the insect, Dr. A. was convinced that it belonged to the new genus of Linnæus. On three other occasions he met with this species of insect in a similar manner, until the end of February, when he saw it no more. The following is his account of the first discovery of its luminous properties:—

The last which I caught I put into a box, and left confined for a day or two. One evening, going to look at it, and happening by chance to stand between the light and the box, so that my shadow fell upon the insect, I observed to my great astonishment, the globes of the antennæ, like two lanterns, spreading a dim phosphoric light. This singular phenomenon roused my curiosity, and after having examined it several times that night, I resolved to repeat my researches the following day. But the animal being exhausted died before the morning, and the light disappeared. And afterwards, not being able to find any more specimens, I was prevented from ascertaining the fact by reiterated

experiments at different times; which I must therefore recommend to other naturalists who may have an opportunity of visiting Sierra Leone, requesting that they would inquire particularly into this curious circumstance.

This insect is described as being of a light chesnut colour, and very glossy all over. The head is larger than that of Linnæus' species. It is furnished with a little horn in the middle between the eyes, which is straight, and tipped with a tuft of cartilaginous hairs. The eyes are very large and evident, those of the male black, though in a certain light appearing greenish; but those of the female like pearls, or as if they were covered with a crystalline membrane. The upper joint of the antennæ is quite globular and resembles an inflated bladder, being almost pellucid and of a light flesh colour. The elytra or wing-cases are shorter than the abdomen, and minutely punctured. The under wings are shining, and of a changeable violet colour. The feet are all of equal length.

Another beautiful genus of luminous insects, is that called *Elater*, of which one of the most remarkable species is *Elater noctilucus*. The organs for the production of light in this genus are situate in the corselet. They likewise consist of a peculiar yellow substance placed behind transparent parts of the shell, which parts are sufficiently thin and transparent to allow the natural colour of the substance to be seen by day, and also to give passage to the light when the insect becomes illuminated. The corselet in the *Elater noctilucus* is remarkably thin at particular spots, and in the concavity of these spots is lodged the soft yellow substance whence the light is emitted. The organs of light have been made the subject of minute dissection by several naturalists; and the substance just spoken of is described as being so close in its texture as to resemble an inorganic mass, but when magnified it presents to view an infinite number of very minute parts or lobules closely pressed together. Around these yellow masses, which are of an oval form, the corselet is arranged in a radiated manner, and the whole is covered with a portion of shell, nearly transparent in that part which covers the radiated substance, but more perfectly so, immediately over the yellow mass.

The masses of luminous substance are described as being extremely irregular in their figure in *Elater ignitus*: they are situate near the posterior angles of the corselet, and are more loose in their texture than the oval masses in the preceding species. The shell of the corselet is somewhat thinner and more transparent along both sides of the margin than in other places, but it has no particular spots from which light is emitted. There appears to be a general diffusion of the luminous substance beneath the corselet of this species; but, as the shell is only semi-transparent, the light can be by no means brilliant.



(*Elater ignitus.*)



This genus is rather extensive, but the European species are generally small, and not to be compared with those which are natives of tropical regions. The destructive grub known in this country by the name of wire-worm is an elater in its early state.

*Elater noctilucus* is the "fire-fly" of South America,

called in that country *Cocujas*, or, by the French colonists, *Mouche lumineuse*. The light which it diffuses from its thoracic spots is sufficiently strong to enable one to read the smallest print, if the insect be held between the fingers, and moved along the lines; and if eight or ten be put into a glass vessel they will afford a light equal to that of a common candle. By means of this natural illumination, the women of the country are said to pursue their work, and ladies are likewise accustomed to adorn themselves by placing the insects among the tresses of their hair. We know not the method by which they contrive to secure the insect in the desired situation; but the fact of their appearing decked with this kind of jewellery in their evening promenades is noticed by South American travellers.

These beautiful insects illuminate both forest and savannah. Humboldt describes the innumerable scattered lights which embellish the nights of the torrid zone, as seeming to repeat on earth along the vast extent of the savannahs the spectacle of the starry vault of heaven. Mr. Southey describes the effect of a first view of this scene, on the early visitors of the New World, in the following lines:—

. . . . . Sorrowing we behold  
The night come on; but soon did night display  
More wonders than it veiled; innumerable tribes  
From the wood-cover swarmed, and darkness made  
Their beauties visible: one while they stream'd  
A bright blue radiance upon flowers that closed  
Their gorgeous radiance from the eye of day;  
Now motionless, and dark, eluded search,  
Self-shrouded; and anon, starring the sky,  
Rose like a shower of fire.

Mouffat informs us that when Sir Thomas Cavendish and Sir Robert Dudley, son to the Earl of Leicester, first landed in the West Indies, and during the twilight of the same evening observed a vast number of moving lights in the contiguous woods, they became so much alarmed, under the idea that the Spaniards were advancing upon them unawares, that they betook themselves to their ships immediately.

It has been said that the inhabitants of the West-India Islands, previous to the arrival of the Spaniards, made use of no other light than that afforded by the insect we have been describing.

When the fire-fly settles on the ground, it is eagerly caught at and devoured by the bull-frog: this has given rise to a curious but most cruel method of destroying these creatures. Red-hot pieces of charcoal are thrown towards the frogs in the dusk of the evening, which they leap at, and, eagerly swallowing, are burnt to death.

#### ANECDOTE OF EDWARD THE SIXTH.

THE genuine goodness of heart, and the mild and amiable manners of King Edward the Sixth, both before and after his accession to the throne, have been a theme of praise with historians, not less than his extraordinary desire and capacity for the acquirement of learning, and the exemplary performance of all his duties. The generosity of his disposition is shown in the following anecdote, which, though relating a childish adventure, is nevertheless interesting, as it serves to illustrate the noble qualities of a prince who conferred additional dignity on his high station by the virtues of his mind, and the propriety of his conduct.

When he was five years old, his godfather, the celebrated Archbishop Cranmer, made him a present of a bureau of elaborate workmanship, containing a costly service of silver plate, consisting of dishes, plates, forks, spoons, and covers. The child was overjoyed at the gift: the various articles being new and polished, looked very splendid, and he testified his satisfaction by repeated exclamations of delight. His valet, to impress him with the value and importance of the gift, observed: "Your highness will be pleased to remember, that although this beautiful plate is yours, it must be kept entirely to yourself; for if others are allowed to touch

French affuses enable the held ; and y will By of the es are facing know to secure their their American t and rable of the the visitors de

it will be entirely spoiled." "My good Hinbrook," replied the prince mildly, "if no one can touch these things without spoiling them, how happens it that they have been given to me?"

The prince, as if to show his disregard of the lesson of his domestic, caused a party of his young friends to be invited the next day to a feast which was set before them on the service plate just presented to him. When the time came for their departure, he directed their attention to the plate which had all been replaced in the bureau, and which had from the first excited the admiration of his young companions; requesting each of his companions to take whatever article pleased him best, and to retain it as a mark of regard from himself. Some of his visitors, who were a few years older than he, were unwilling to take advantage of his munificent disposition; but he enforced his request with such earnestness, that they could not refuse. "You know," said he to them with a smile, "I am the king's son, and can replace them at any time I please."

#### REFLECTIONS IN A CHURCH-YARD

WHEN in my travels I pass through a town or village which I have not seen, if I have sufficient leisure, the first place which I visit is uniformly the church-yard. The feeling that I am a stranger, that I know not the scenery, and that it knows not me, naturally induces a sort of pensive meditation, which disposes me for that sojourn. I form certain estimates of the taste and moral feeling of the people from the forms and devices of the slabs and monuments, and the order in which the consecrated ground is kept. The inscriptions are ordinarily in too bad taste to claim much interest, though there are few church-yards that cannot show some monuments which, by their eccentric variation from the rest, mark individuality of character. But this is a matter of trifling interest compared with the throng of remembrances and anticipations that naturally crowd upon the spirit of a stranger in such a place. Youth with its rainbow and its fresh affections; mature age with its ambitious projects; old age in the midst of children; death in the natal spot, or in the house of the stranger; eternity with its dim and illimitable mysteriousness;—these shadowy images, with their associated thoughts, pass through the mind, and return like the guests at an inn. While I look up towards the rolling clouds, and the sun walking his unvarying path along the firmament, how natural the reflection, that they will present the same aspect, and suggest the same reflections—that the trees will stand forth in their foliage, and the hills in their verdure, to him who comes after me, when I shall have taken my place with the unconscious sleepers about me! Here is the place to reflect upon the folly and the guilt of human hatred and revenge, ambition and avarice, and the million puerile projects and cares that are incessantly overclouding the sunshine of existence. The heart cannot but be made better by occasional communion with these tenants of the narrow house, where

Each waits the other's license to disturb  
The deep, unbroken silence.—FLINT

#### THE QUAGGA. (*Equus quagga*.)

Afar in the desert I love to ride  
With the silent Bush-boy alone by my side,  
Away, away from the dwellings of men,  
By the wild deer's haunt and the buffalo's glen  
By valleys remote where the oribi plays;  
Where the gnoo, the gazelle, and the hartebeest graze;  
And the gemsbok and gland unhunted recline  
By the skirts of gray forests o'ergrown with wild vine;  
And the elephant browses at peace in his wood;  
And the river-horse gambols unscared in the flood;  
And the mighty rhinoceros wallows at will  
In the vley, where the wild ass is drinking his fill.

PRINGLE.

THE Quagga, or Quakkah, is an animal inhabiting the extensive plains of Southern Africa, and bearing a considerable resemblance to the zebra. There is another animal found in the same region, called by the Dutch the *wilde paard*, and by the Hottentots *dauw*; and Mr. Burchell has given the following distinctive characters to know one from another of four animals, bearing some resemblance to each other, and belonging to the horse genus:—the *ass* has generally a single stripe across the shoulders; the *quagga* has many

such marks on the head and forepart of the body; the *zebra* is covered with stripes over the head and the whole of the body except the legs; and the *wilde paard* (wild horse), is striped over every part, even down to the feet.

The quagga is that species to which the present paper will chiefly refer. A full-grown quagga is generally about four feet high at the withers. The head and neck are deep blackish-brown, striped with grayish-white lines, transverse upon the cheeks, but longitudinal on the temples and forehead, and forming triangles between the mouth and eyes: the other parts of the body are of a clearer brown, paler beneath, and almost white upon the belly. There are so many points of resemblance between the quagga and the zebra, that the earlier travellers in Africa confounded one with the other, and even considered them to be identical; but later observers have seen sufficient reason for considering them as different species; for, besides the difference in the stripes with which they are marked, the quagga is inferior in size to the zebra. There is a very marked difference between the colour of the two sexes among the quaggas, that of the male being far more vivid than of the female.

The more solitary regions in the southern parts of Africa are the haunts of this beautiful animal. They are of a sociable disposition, and, in a state of wilderness, herd in troops of a hundred or more together; and it is observed that though they inhabit the same deserts as the zebra, they never associate with that species. When Mr. Burchell was travelling over the wild wastes of Africa, his stock of provisions being rather low, he ordered one of his servants to go out and endeavour to capture some animal that might be fit for food. The man returned after having shot a quagga; and as the Hottentots praised its excellence as meat, Burchell ordered a steak to be broiled for his dinner. Novelty and the curiosity attending the event tended to influence the opinion formed on the occasion, for Mr. Burchell considered it, at the time, as being good and palatable, as being tender, and possessing a taste midway between that of beef and mutton. He made several meals from the same quagga, but never afterwards, from choice, partook of the flesh of this animal when other food was near. Mr. Burchell well observes, that it was the misleading influence of prejudice and habit, that prevented him from afterwards considering this as a regular article of food; allowing himself, merely because he viewed this meat as horse-flesh, to reject food which was really good and wholesome. To persons accustomed to the flesh of oxen and sheep, that of the quagga possesses this disadvantage, that the fat is rather yellow and oily and has a very strong smell. The flesh is, however, highly esteemed by the Hottentots, whose tastes are by no means delicate.

The quaggas are very bold and determined, when roaming over their native plains. One traveller tells us that, towards the latter part of a day's journey, he met a troop of quaggas, one of which was hit in the haunch by a shot from one of the party. The animal nevertheless attempted to flee, and bit violently when they went up to secure him. Although they were desirous to spare their powder and shot as much as possible, yet, in order to secure him, they were obliged to fire at him a second time; for all attempts to come near him were vain, and manifestly not to be made without danger. When killed, he was immediately cut up by the Hottentots who accompanied the party, and stowed away in the travelling wagons as a store of provisions for future days.

Travellers have more than once had opportunities of observing, that the quagga and the ostrich are

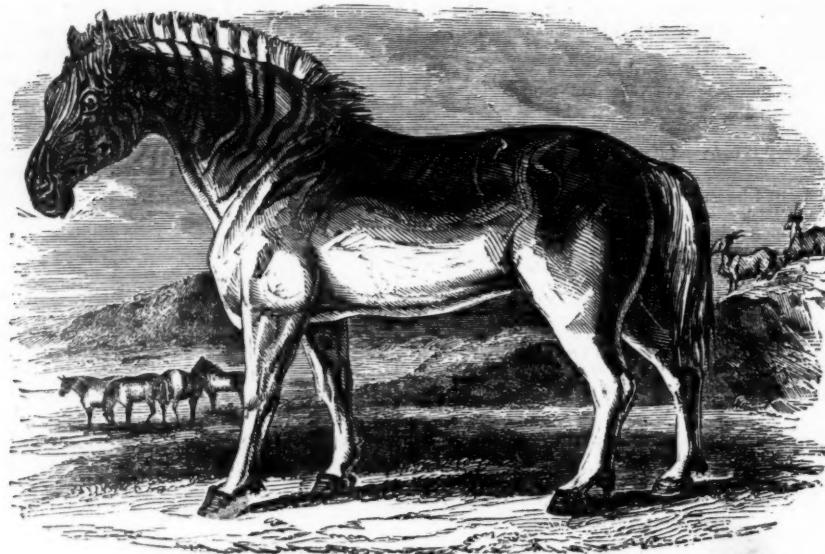
frequently to be found in company, or at least at no great distance apart. While Professor Lichtenstein was journeying over the African plains, he perceived a narrow path which seemed to have been trodden by ostriches. This path he followed for some time, and on turning the angle of a neighbouring hill, he espied a flock of about thirty of these gigantic birds, and behind them a troop of quaggas amounting to not less than eighty or a hundred. As he approached them the ostriches caught sight of him and immediately took to flight, and were followed instinctively by the quaggas. He remarks, that however different these animals may be in their habits, they have a great attachment to each other, which seems to arise from this circumstance,—that the quaggas follow the ostriches because the latter, by being able to see to a great distance, can more readily detect the approach of danger or the proximity of food; and, on the other hand, the smell of the quagga attracts great numbers of large beetles of a peculiar kind, which are a dainty food to the ostriches. Burchell had also opportunities of observing the tendency which these animals have to associate together, as if for mutual assistance.

Some few instances have been known of the possibility of domesticating the quagga. Lichtenstein saw one feeding in a meadow in company with several horses: he suffered himself readily to be stroked and caressed by the people about him; but his spirit of freedom was not yet so far subdued as to suffer them to ride him. Another traveller, while riding on horseback, saw a young quagga foal coming towards him, having just lost its mother. The little animal suffered itself to be led to a cattle-pound, where it remained as quiet and tame as a common foal; the presence of men seeming to give it no uneasiness. Hopes were entertained of bringing it up tame; and it was accordingly suckled by a mare; but the poor little thing died in about ten days, owing, as some of the Hottentots said, to its pining for the loss of its mother; but, as others thought, to the disinclination of the mare to afford it sufficient milk, or to the milk being unwholesome for it. It is the opinion of competent persons, however, that many wild animals, if taken very young, may be reared by suckling them under

such domestic animals as belong to the same genus, or even to the same order; and although the natural wildness or ferocity of their nature cannot be wholly subdued by such nurture; yet they would become accustomed to confinement and to the presence of men; by which means an opportunity would be afforded for discovering many particulars of their history, which can never be known by merely viewing them in their wild state. That the quagga is capable of being brought to a docile state is proved by the fact, that a few years ago a curriole drawn by a pair of these animals was frequently seen during the gay season in Hyde Park.

Mr. Burchell once observed the beautiful skin of one of these animals, which had been formed into a *tanning-vat*, supported by four stakes on a frame, to which its edges were bound by thongs in such a manner, that the middle, hanging down, formed a spacious basin. It was filled with a liquid, in which lay a quantity of the bark of karro-thorn, and together with it a number of sheep-skins, first deprived of the hair, were placed to steep: this bark contains a considerable portion of the tanning principle, and imparts a reddish colour to the leather. The sheep-leather, thus tanned, is made use of in many parts of the Hottentot country for the fabrication of trousers and other articles of dress.

We cannot, in the present article, enter into a description of the zebra: this we shall do at some future period; but we may just mention one or two points of difference between that animal and the quagga, in addition to those relating to colour, which we have before detailed. The true zebra is exclusively confined to mountainous regions, from which it rarely if ever descends; but the quagga and the wilde paard are found in the extensive plains with which Southern Africa abounds. The two last-named animals have ears and tails resembling those of the horse, while the zebra is in those respects more like the ass. The quagga is stronger than the mule, lives hardily, and is seldom out of flesh; but the zebra has much more of the meagre and bony appearance of the ass. The cut which illustrates this article certainly conveys the idea of a stout-built and muscular animal.



THE QUAGGA.